

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of	:	Customer No.: 1912
Pedro M. Buarque de Macedo	:	Confirmation No.: 8891
Application No.: 10/625,102	:	Tech Center Art Unit: 3637
Filed: July 22, 2003	:	Examiner: Michael Safavi
For: Prestressed, Strong Foam Glass Tiles	:	

**REPLY BRIEF**

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 C.F.R. § 41.41, this Reply Brief is submitted in response to the Examiner's Answer mailed on June 2, 2010, and in support of the Notice of Appeal filed on September 3, 2009, wherein Appellant appeals from the Primary Examiner's rejection of Claims 1, 5, 13, 14, 23, 27, 29-31, 37, 42-47, 51-59 and 63-66 set forth in his Final Office Action dated March 4, 2009 ("the March 4, 2009 Office Action") in connection with the above-identified application.<sup>1</sup>

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<sup>1</sup> Appellant's September 3, 2009 Notice of Appeal reinstated an appeal based on the previous Notice of Appeal filed on November 28, 2007 (which, in turn, reinstated an appeal based on the Notice of Appeal filed on December 22, 2006). In response to Appellant's Appeal Brief filed on March 13, 2008 in support of the November 28, 2007 Notice of Appeal, the Examiner reopened the prosecution by adding a new ground of rejection based on U.S. Patent No. 3,811,851 to MacKenzie ("MacKenzie") in a non-final Office Action of July 11, 2008. In the subsequent Supplemental Office Action of August 21, 2008, the Examiner withdrew the claim rejection based on U.S. Patent No. 4,450,656 to Lagendijk ("Lagendijk"), which was

## ARGUMENTS

### **A. Examiner's Answer Fails to Rebut Appellant's Arguments in Appeal Brief That Zeinetz Does Not Disclose or Suggest the Claimed Prestress Compression of a Foam Glass Tile**

U.S. Patent No. 3,292,316 to Zeinetz ("Zeinetz") is the only reference the Examiner believes teaches using foamed glass tiles "within a tensioned structural arrangement" (see page 2 of the March 4, 2009 Office Action and page 4 of the Examiner's Answer). Specifically, the Examiner points to tension bars 36, 39 in FIG. 11 of Zeinetz and asserts that these tension members hold foam glass tiles, citing Col. 4, lines 5-9 of the Patent.

In the Appeal Brief, Appellant presented arguments that the Zeinetz does not teach or even suggest prestressing of a foam glass tile under any amount of prestress compression, let alone the claimed prestress compression of 4,000 psi or greater (see pages 16-19 of Appellant's Appeal Brief). In response, the Examiner's Answer merely states that "[t]he tension bars 36, 39 are indeed, placed in a prestressed condition by means of device 37/38" (see page 11 of the Examiner's Answer).

However, this does not address the Appellant's point that Zeinetz does not disclose or even suggest the tension bars 36, 39 being used to prestress foam glass tiles.

The tension bars are merely coupling or connecting means in conjunction with U-

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one of the prior art the Examiner relied on in his prior final rejection. As a result of Appellant's Request for Reconsideration filed without any claim amendment on November 21, 2008, the Examiner ultimately withdrew the newly added ground of rejection based on MacKenzie. However, the Examiner continued to reject all of the pending claims in the Final Office Action mailed on March 4, 2009 based on combinations of the eight remaining prior art references he had relied on in his prior final rejection. Despite Appellant's efforts to explain the patentability of the pending claims over the prior art during the personal interview with the Examiner on July 8, 2009, the Examiner still maintains the final rejection and suggests that Appellant pursue the appeals process. Appellant's September 3, 2009 Notice of Appeal and March 1, 2010 Appeal Brief address the final rejections by the Examiner as set forth in his March 4, 2009 Office Action.

shaped/tubular seams 19, 119, 21, 121 to keep adjacent roof elements together. Nowhere in Zeinetz is there any teaching or suggestion that the tension bars 36, 39 in FIG. 11 provide a means for prestressing foam glass tiles, let alone providing prestress compression of 4,000 psi or greater. In the context of Zeinetz, there would be no logical reason to apply such high tension amounts to achieve the coupling effect sought and if such tension were applied, one would expect the materials identified in Zeinetz to crumble and collapse. The Examiner's Answer once again fails to explain how the tension bars 36, 39 of Zeinetz, which function to keep adjacent roof elements together, could possibly be used to prestress foam glass tiles. The Examiner's Answer merely rehashes the same rejection presented throughout prosecution, without providing any further explanation or support.

The Examiner's Answer in page 11 continues to refer to the disclosure of Zeinetz related to the use of foamed glass slabs for the roof panels. However, as discussed in the Appeal Brief, Zeinetz specifically teaches that the load sustaining layer of the roofing elements, which is the layer that would potentially be under compression, "is made of concrete, for example." Zeinetz, Col. 4, line 14. Regardless of what materials are used to form the roof panels, there is no teaching or suggestion in Zeinetz that the load sustaining layer could be made of prestressed foam glass tiles, let alone foam glass tiles having a prestress compression of 4,000 psi or greater. Once again, the Examiner's Answer fails to address this distinction from Zeinetz.

In sum, the Examiner's Answer fails to adequately address Appellant's arguments set forth in the Appeal Brief (and repeatedly throughout the prosecution of this

application) as to why Zeinetz does not disclose or suggest prestressing of a foam glass tile under any amount of prestress compression.

**B. Examiner's Answer Fails to Rebut Appellant's Arguments in Appeal Brief That None of the Other Prior Art Relied Upon by the Examiner Discloses or Suggests the Claimed Prestress Compression of a Foam Glass Tile**

As explained in pages 25-28 of the Appeal Brief, neither U.S. Patent No. 4,124,365 to Williams et al. ("Williams et al.") nor U.S. Patent No. 3,056,184 to Blaha ("Blaha") discloses a material that is subject to a prestress compression, let alone the claimed prestress compression of 4,000 psi or greater or the claimed compression strength of 10,000 psi or greater prior to being prestressed.

In response to this point, the Examiner's Answer refers to the well-known legal doctrine that making something that is merely stronger or longer lasting than the prior art is not the sort of innovation for which patent monopoly is granted (see pages 11-12 of the Examiner's Answer). However, the claimed invention is not merely directed to making a building material stronger, but is instead directed to making a specific type of building material (i.e., foamed glass) stronger by applying prestress compression. The Examiner's Answer's point that making an object stronger is not patentable fails to address the fact that none of the cited references discloses or even suggests applying a prestress compression to foamed glass tiles.

Further, as explained in pages 20-21 of the Appeal Brief, a person of ordinary skill in the art would not be reasonably expected to succeed in obtaining the subject matter of the rejected claims, including a prestressed foam glass tile under a prestress compression

of 4,000 psi or greater, merely on the basis of the prior art relied upon by the Examiner. The Examiner's Answer does not at all address this point.

Further, as explained in pages 23-24 of the Appeal Brief, none of the prior art references relied upon by the Examiner, including Zeinetz, provides any disclosure (e.g., by way of prestress compression measurements) or cite any supporting reference that would enable one of ordinary skill in the art to prestress a foam glass tile under any amount of prestress compression, let alone the claimed range of 4,000 psi or greater. In response to this argument, the Examiner's Answer merely states that "the applied prior art does indeed, enable the claimed prestress compression recited within the present claims", and then presents an argument focusing on the compression strengths of the foamed glass tiles or blocks disclosed in U.S. Patent No. 3,459,565 to Jones et al. ("Jones et al."), U.S. Patent No. 3,592,619 to Elmer et al. ("Elmer et al."), and U.S. Patent No. 2,758,937 to Ford ("Ford") (see pages 12-13 of the Examiner's Answer). However, the values for the compression strengths provided in either Williams et al., Blaha, Jones et al., Elmer et al., or Ford do not relate to the amount of prestress compression applied to the foamed glass, or for that matter, do not suggest that any amount of prestress compression is applied to the foamed glass at all.

**C. Examiner's Answer Fails to Rebut Appellant's Arguments in Appeal Brief That There Is No Apparent Reason To Combine Zeinetz With Williams et al. or Blaha To Obtain the Claimed Prestress Compression**

As discussed in pages 30-31 of the Appeal Brief, Zeinetz teaches the use of foamed glass only within the context of a "moldable material." See Zeinitz, Col. 4, lines 5-8. Neither Williams et al. nor Blaha teaches a moldable material. Rather, those references

are primarily associated with extruded materials. Thus, one of ordinary skill in the art would not look to Williams et al. or Blaha for a suitable “moldable material” for use with the structure disclosed in Zeinitz. There is also no teaching or suggestion in either Williams et al. or Blaha regarding how a “moldable material” foam glass tile can be formed which can be used in a copola-like structure as provided in Zeinetz which could be strong enough to be prestressed to 4,000 psi or greater. Nor is there any indication or suggestion that if the foam glass products of Williams et al. or Blaha are made by moldable materials, instead of extruded materials, they could achieve the claimed compression strength of 10,000 psi or greater and are suitable for a prestress compression of 4,000 psi or greater. *Cf.* Declaration of Dr. Macedo, pars. 17 and 22.

The Examiner’s Answer simply does not address this argument. In fact, in the Examiner’s Answer and throughout the prosecution of this application, the Examiner has never explicitly articulated any rationale for combining Williams et al. or Blaha with Zeinetz, even though the Supreme Court in *KSR* noted that the analysis supporting an obviousness rejection should be made explicit. *See* MPEP § 2143.

### CONCLUSION

For the reasons presented in the Appeal Brief as well as for the reasons advanced above, Appellant respectfully submits that Claims 1, 5, 13, 14, 23, 27, 29-31, 37, 42-47, 51-59 and 63-66 are, as a matter of law, patentable over Zeinetz, Williams et al., Blaha, Jones et al., Elmer et al., Ford, U.S. Patent No. 4,323,037 to Grady, and U.S. Patent No. 3,430,397 to Ellis, either individually or in any combination thereof, and that all of the Examiner’s final rejections of those Claims on this Appeal as set forth in the March 4,

2009 Office Action are in error. Accordingly, Appellant respectfully requests reversal of the final rejections from which this Appeal was taken and allowance of Claims 1, 5, 13, 14, 23, 27, 29-31, 37, 42-47, 51-59 and 63-66 over the prior art.

Respectfully submitted,

AMSTER, ROTHSTEIN & EBENSTEIN LLP  
Attorneys for Appellant  
90 Park Avenue  
New York, NY 10016  
(212) 336-8000

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By: /Charles R. Macedo/  
Charles R. Macedo  
Registration No.: 32,781

Of Counsel:

Anthony F. Lo Cicero, Esq. (Reg. No. 29,403)  
Benjamin M. Halpern, Esq. (Reg. No. 46,494)  
Jung S. Hahm, Esq. (Reg. No. 48,333)  
AMSTER, ROTHSTEIN & EBENSTEIN LLP  
90 Park Avenue  
New York, NY 10016  
(212) 336-8000